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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,466	02/12/2002	Keun-Woo Lee	21C-0009	8902

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EXAMINER

PAYNE, SHARON E

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 09/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/074,466

Applicant(s)

LEE ET AL.

Examiner

Sharon E. Payne

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 and 16 is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-14 and 17-25 is/are rejected.
- 7) ☒ Claim(s) 11 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1 and 17 are objected to because of the following informalities: the word “respectfully” in the last line of both claims probably should be “respectively.” Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 6-9, 12, 13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Redmond et al. (U.S. Patent 5,664,862).

Regarding claim 1, Redmond discloses an edge light for a panel display. The edge light includes a light generating means for generating a light (reference number 47); a first light guide means including a first portion through which the light is incident and a second portion from which the light is emitted (lighting panel, reference number 13), and a second light guiding means (reference number 14) including opposite first and second side portions (Fig. 1) at least one of which is adjacent to the light generating means (Fig. 1), a light projecting portion (reference number 34) adjacent to the first portion of the first light guiding means (Fig. 1), and a light reflecting portion (reference

number 35) having a distance from the light projecting portion (Fig. 2), the distance between the light projecting portion and the light reflecting portion becoming narrow as an amount of a light flux of the light emitted from the light generating means decreases (Fig. 2) wherein widths of the first and second side portions are defined according to an amount of the light input to the first and second side portions respectively (Fig. 2). (With respect to Fig. 2, both side portions, top and bottom of the figure, are the same width and have one light source; thus, the last limitation in amended claim 1 is met.)

Concerning claim 2, Redmond discloses the light generating means including at least one light source (reference number 47).

Regarding claim 3, Redmond discloses a point-shaped light source (column 1, lines 15-20).

Concerning claim 4, Redmond discloses a concave section on the light reflecting portion (Fig. 2).

Concerning claim 6, Redmond discloses the concave section as having a bottom portion (Fig. 2), and a position of the bottom portion is defined by a following equation:

$X : Y = w1 : w2$, wherein X is a linear distance from the first side portion to the bottom portion, Y is a linear distance from the second side portion to the bottom portion, X+Y is a linear distance from the first side portion to the second side portion, w1 is a width of the first side portion, and w2 is a width of the second side portion (Fig. 2). (The

middle of the light reflecting portion is part of the bottom portion, and the middle satisfies the above equation.)

Regarding claim 7, Redmond et al. discloses the value of X being substantially equal to the value of Y (Fig. 2). (The middle of the light reflecting portion is part of the bottom portion, and the middle satisfies the above equation.)

Concerning claim 8, Redmond et al. discloses at least one first light source (reference number 47) adjacent to the first side portion of the second light guiding means (Fig. 2) and at least one second light source (reference number 47) adjacent to the second side portion of the second light guiding means (Fig. 2).

Regarding claim 9, Redmond et al. discloses the number of first light sources being the same as the number of second light sources (Fig. 2).

Concerning claim 12, Redmond et al. discloses a linear distance between the bottom portion and the light projecting portion is smaller than a smaller width of the widths of the first and second side portions (Fig. 2).

Regarding claim 13, Redmond et al. discloses the concave section comprising a plurality of groove patterns (Figs. 2 and 3).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the

subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 17-20 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Redmond et al. in view of Fitzgibbons (U.S. Patent 3,838,909).

Regarding claim 17, Redmond et al. discloses a light generating means for generating light (reference number 47), a first light guiding means including a first portion through which the light is incident and a second portion from which the light is emitted (reference number 13), and a second light guiding means including opposite first and second side portions (Fig. 1), at least one of which is adjacent to the light generating means (Fig. 1), a light projecting portion (reference number 34) adjacent to the first portion of the first light guiding means (Fig. 1), and a light reflecting portion (reference number 35) having a distance from the light projecting portion (Fig. 1), the distance between the light projecting portion and the light reflecting portion becoming

narrow as an amount of light flux emitted from the light generating means decreases (Fig. 2), wherein widths of the first and second side portions are defined according to an amount of the light input to the first and second side portions (Fig. 2). (With respect to Fig. 2, both side portions, top and bottom of the figure, are the same width and have one light source; thus, the last limitation in amended claim 17 is met.) Redmond et al. does not disclose a reflection type liquid crystal display device.

Fitzgibbons discloses a liquid crystal display panel for displaying an image (column 1, line 44), and an illumination device disposed in a front of the liquid crystal display panel (column 1, lines 42-50).

It would have been obvious to one of ordinary skill in the art to use the panel display of Redmond et al. in the reflection type liquid crystal display device of Fitzgibbons to provide illumination to the display.

Concerning claim 18, Redmond et al. discloses at least one light source (reference number 47).

Regarding claim 19, Redmond et al. discloses a point-shaped light source (column 1, line 18).

Concerning claim 20, Redmond et al. discloses the light reflecting portion including a concave section towards the light projecting surface (Figs. 1 and 2).

Regarding claim 22, Redmond et al. discloses the concave section as having a bottom portion (Fig. 2), and a position of the bottom portion is defined by a following equation:

$X : Y = w1 : w2$, wherein X is a linear distance from the first side portion to the bottom portion, Y is a linear distance from the second side portion to the bottom portion, X+Y is a linear distance from the first side portion to the second side portion, w1 is a width of the first side portion, and w2 is a width of the second side portion (Fig. 2). (The middle of the light reflecting portion is part of the bottom portion, and the middle satisfies the above equation.)

Concerning claim 23, Redmond et al. discloses a linear distance between the bottom portion and the light projecting portion is smaller than a smaller width of the widths of the first and second side portions (Fig. 2).

Concerning claim 24, Redmond et al. discloses the concave section comprising a plurality of groove patterns (Figs. 2 and 3).

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Redmond et al. in view of Takeichi et al. (U.S. Patent 3,761,704).

Regarding claim 5, Redmond et al. does not disclose a concave section that has a "V" shape. Takeichi et al. discloses a concave section that has a "V" shape inclined from opposite ends of the light reflecting portion adjacent to the first and second side portions (Fig. 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the "V" shape of Takeichi et al. in the apparatus of Redmond et al. to distribute the light uniformly.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Redmond et al. in view of Kalmanash (U.S. Patent 5,442,522).

Regarding claim 10, Redmond et al. does not disclose a first number of first light sources being different from a second number of the second light sources. Kalmanash discloses a first number of the first light sources (reference number 50) being different from the second number of the second light sources (reference number 42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the light source configuration of Kalmanash in the apparatus of Redmond et al. to provide a different light flux coming from each side of the apparatus.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Redmond et al. in view of Rogoff (U.S. Patent 5,055,978).

Regarding claim 14, Redmond et al. does not disclose a light scattering member. Rogoff discloses the second light guiding means having a light scattering member (abstract). The portion of the claim starting with "which" and continuing to the end of the claim consists of functional language that is not given patentable weight. See M.P.E.P. 2114.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the light scattering member of Rogoff in the apparatus of Redmond et al. for scattering the light.

10. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Redmond et al. in view of Fitzgibbons as applied to claim 20 above, and further in view of Takeichi et al.

Regarding claim 21, Redmond et al. does not disclose a concave section that has a "V" shape. Takeichi et al. discloses a concave section that has a "V" shape inclined from opposite ends of the light reflecting portion adjacent to the first and second side portions (Fig. 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the "V" shape of Takeichi et al. in the apparatus of Redmond et al. to distribute the light uniformly.

11. Claim 25 rejected under 35 U.S.C. 103(a) as being unpatentable over Redmond et al. in view of Fitzgibbons as applied to claim 17 above, and further in view of Rogoff.

Regarding claim 25, Redmond et al. does not disclose a light scattering member. Rogoff discloses the second light guiding means having a light scattering member (abstract). The portion of the claim starting with "which" and continuing to the end of the claim consists of functional language that is not given patentable weight. See M.P.E.P. 2114.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the light scattering member of Rogoff in the apparatus of Redmond et al. for scattering the light.

Allowable Subject Matter

12. Claims 15-16 are allowed.

13. Claims 11 and 26 would be allowable if rewritten to overcome the objections set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter. The prior art fails to disclose an illumination device having a *different* number of light sources on the first and second side portions wherein the widths of the first and second side portions are defined by the equation $w1 : w2 = n1 : n2$, wherein $w1$ is the width of the first side portion and $w2$ is the width of the second side portion, $n1$ is the amount of the light input to the first side portion, and $n2$ is the amount of the light to the second side portion.

Response to Arguments

Applicant argues that the last element in the last two lines of claims 1 and 17 are not shown by Redmond. To the contrary, the limitation in both of these claims is shown by Redmond. Redmond shows first and second side portions that are the same width (Fig. 2, top and bottom). Furthermore, both side portions have one light source (Fig. 2). Therefore, the widths of the first and second side portions (which are the same) are defined according to the light input (one source) into the first and second side portions (Fig. 2).

The objections to claims 2 and 18 are withdrawn.

All other arguments are rendered moot due to the above rejections and argument.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

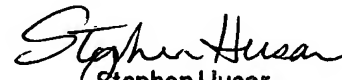
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharon E. Payne whose telephone number is (703) 308-2125. The examiner can normally be reached on regular business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

sep


Stephen Husar
Primary Examiner